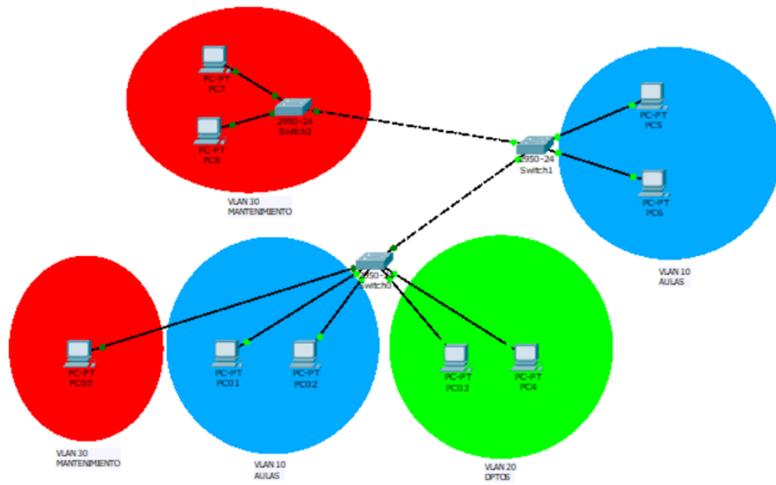


Práctica 5.7 Ejercicios en Packer Tracer

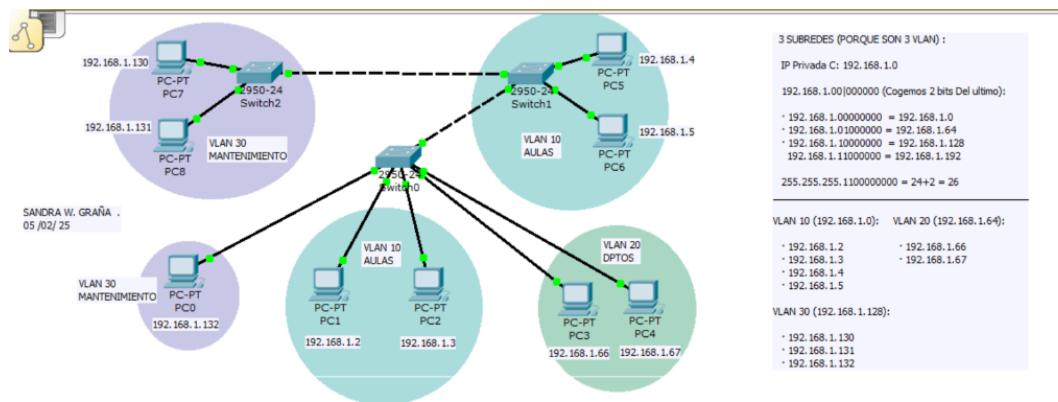
lunes, 30 de enero de 2023 15:50

- Se busca obtener y configurar el siguiente esquema lógico en *Packet Tracer* formado por tres subredes VLAN:

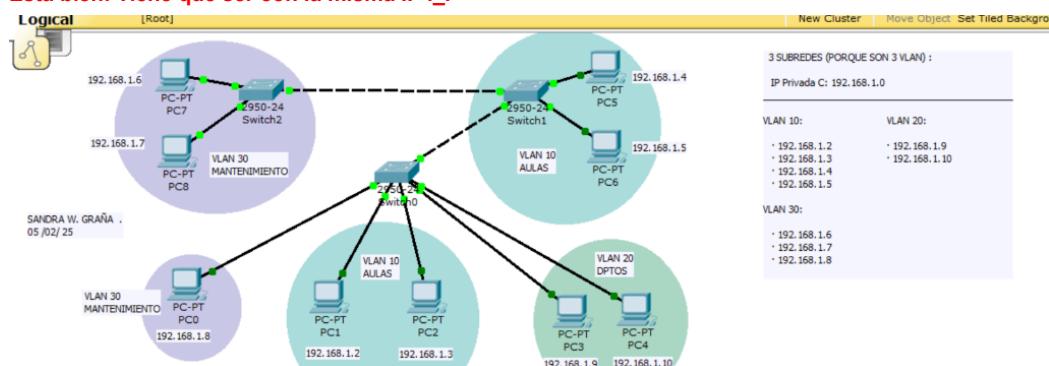


- Asigna direcciones IP para todos los equipos de la red.

Esta mal : Tienen diferente IP pero tienen que ser con la misma IP todos ...



Está bien: Tiene que ser con la misma IP ...



3 SUBREDES (PORQUE SON 3 VLAN) :

IP Privada C: 192.168.1.0

VLAN 10:

- 192.168.1.2
- 192.168.1.3
- 192.168.1.4
- 192.168.1.5

VLAN 20:

- 192.168.1.9
- 192.168.1.10

VLAN 30:

- 192.168.1.6
- 192.168.1.7
- 192.168.1.8

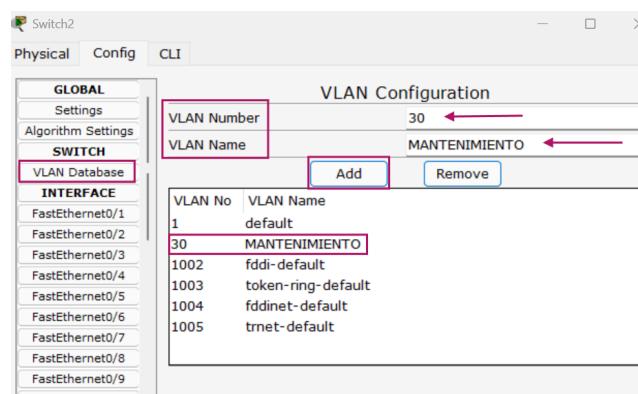
- b. Deberás de crear en cada uno de los switches tres **VLAN** llamadas: **VLAN10**, **VLAN20** y **VLAN30** en el apartado **VLAN Database** de cada switch. No te olvides de dibujarlas también como en el esquema: VLAN10 es AULAS, VLAN 20 es DPTOS y VLAN 30 es MANTENIMIENTO.

Entra al Switch y ve al apartado de Config. > VLAN Database.

Cuando estas en la base de datos de VLAN añade los apartados:

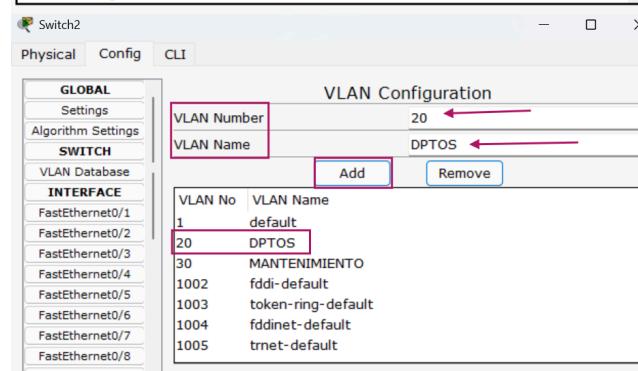
- 30 MANTENIMIENTO
- 20 DPTOS
- 10 AULAS

Hazlo en los 3 Switch y de los 3 VLAN



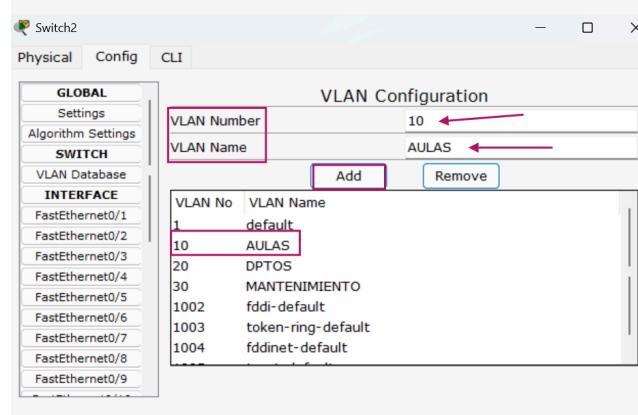
Equivalent IOS Commands

```
Switch(config)#vlan 30
Switch(config-vlan)#name MANTENIMIENTO
Switch(config-vlan)#exit
Switch(config)#
```



Equivalent IOS Commands

```
Switch(config)#vlan 20
Switch(config-vlan)#name DPTOS
Switch(config-vlan)#exit
Switch(config)#
```



Equivalent IOS Commands

Switch(config)#vlan 10
Switch(config-vlan)#name AULAS
Switch(config-vlan)#exit
Switch(config) #

VLAN No	VLAN Name
1	default
10	AULAS
20	DPTOS
30	MANTENIMIENTO
1002	fddi-default
1003	token-ring-default
1004	fddinet-default

- c. Asigna a la **VLAN10** los **puertos** del esquema que la utilicen con sus respectivos equipos en el apartado Interface del switch. Haz lo mismo para las **VLAN20** y **VLAN30** siguiendo el esquema superior.

Entra al Switch > Config > Interface > FastEthernet (Tienes que ver cada).

- Pasando el cursor por encima del puntito de cada cable puedes ver que FastEthernet pertenece a cada pc. (Los Puertos)
- Y en el switch eliges ese puerto y pones el VLAN que le corresponde.

The screenshot displays a network configuration interface with the following components:

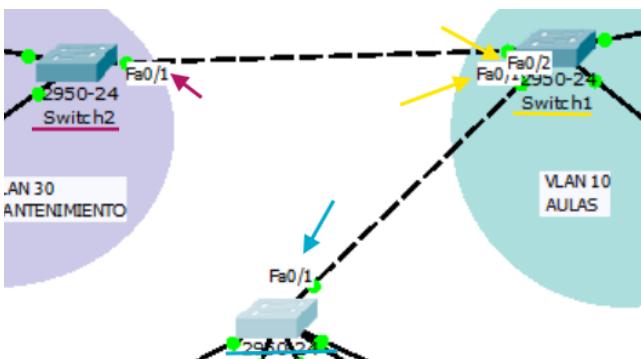
- Network Diagram:** Shows three VLANs: VLAN 10 (AULAS), VLAN 20 (DPTOS), and VLAN 30 (MANTENIMIENTO). Each VLAN contains two hosts (PC-PT and PC) connected to specific ports on the switch.
- Configuration Windows:** There are four separate windows for configuring FastEthernet ports:
 - FastEthernet0/2:** Port Status: On, Bandwidth: Auto, Duplex: Auto, Access: VLAN 30.
 - FastEthernet0/3:** Port Status: On, Bandwidth: Auto, Duplex: Auto, Access: VLAN 10.
 - FastEthernet0/4:** Port Status: On, Bandwidth: 100 Mbps, Duplex: Full Duplex, Access: VLAN 10.
 - FastEthernet0/5:** Port Status: On, Bandwidth: Auto, Duplex: Auto, Access: VLAN 10.
- Equivalent IOS Commands:** Below each configuration window, there is a section titled "Equivalent IOS Commands" containing the following commands:
 - FastEthernet0/2: `switch(config-if)#`, `switch(config-if)#exit`, `switch(config)#interface FastEthernet0/2`
 - FastEthernet0/3: `switch(config-if)#`, `switch(config-if)#exit`, `switch(config)#interface FastEthernet0/3`
 - FastEthernet0/4: `switch(config-if)#`, `switch(config-if)#exit`, `switch(config)#interface FastEthernet0/4`
 - FastEthernet0/5: `switch(config-if)#`, `switch(config-if)#exit`, `switch(config)#interface FastEthernet0/5`

The screenshot shows the configuration of two switches, Switch1 and Switch2. Both switches have their Fa0/1 ports assigned to VLAN 10 (AULAS). The VLAN 10 interface on both switches is set to Access mode with VLAN 10 selected.

Con esto conectas cada Equipo a su propio VLAN

- d. Entre los switches deberás de crear una conexión de tipo troncal (*Trunk*) entre los **puertos** en que estén conectados.

- Compruebas los puertos que conectan cada Switch
- Entra a Switch > Config > Puerto
- Cuando estas el el FastEthernet vas al apartado de VLAN y donde pone Access lo cambias a Troncal.
- Eliges los 3 VLAN (10,20,30)
- Lo haces en todos los Switch



The screenshot shows the configuration of Switch2's Fa0/1 port. The port is configured as a Trunk and is assigned to VLAN 2-1001. It includes VLANs 10:AULAS and 20:DPTOS.

Equivalent IOS Commands

```
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan add 30
Switch(config-if)#

```

Switch1

Physical Config CLI

GLOBAL

- Settings
- Algorithm Settings
- SWITCH**
- VLAN Database
- INTERFACE**
- FastEthernet0/1
- FastEthernet0/2
- FastEthernet0/3
- FastEthernet0/4
- FastEthernet0/5
- FastEthernet0/6
- FastEthernet0/7
- FastEthernet0/8
- FastEthernet0/9

FastEthernet0/1

Port Status On

Bandwidth Auto

10 Mbps 100 Mbps

Duplex Auto

Full Duplex Half Duplex

Trunk VLAN 2-1001

Tx Ring Limit

<input checked="" type="checkbox"/> 10:AULAS
<input checked="" type="checkbox"/> 20:DPTOS
<input checked="" type="checkbox"/> 30:MANTENIMIENTO

Equivalent IOS Commands

```
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan remove 1005
Switch(config-if)#

```

Switch1

Physical Config CLI

GLOBAL

- Settings
- Algorithm Settings
- SWITCH**
- VLAN Database
- INTERFACE**
- FastEthernet0/1
- FastEthernet0/2
- FastEthernet0/3
- FastEthernet0/4
- FastEthernet0/5
- FastEthernet0/6
- FastEthernet0/7
- FastEthernet0/8
- FastEthernet0/9

FastEthernet0/2

Port Status On

Bandwidth Auto

10 Mbps 100 Mbps

Duplex Auto

Full Duplex Half Duplex

Trunk VLAN 2-1001

Tx Ring Limit

<input checked="" type="checkbox"/> 10:AULAS
<input checked="" type="checkbox"/> 20:DPTOS
<input checked="" type="checkbox"/> 30:MANTENIMIENTO

Equivalent IOS Commands

```
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan remove 1005
Switch(config-if)#

```

Switch0

Physical Config CLI

GLOBAL

- Settings
- Algorithm Settings
- SWITCH**
- VLAN Database
- INTERFACE**
- FastEthernet0/1
- FastEthernet0/2
- FastEthernet0/3
- FastEthernet0/4
- FastEthernet0/5
- FastEthernet0/6
- FastEthernet0/7
- FastEthernet0/8
- FastEthernet0/9

FastEthernet0/1

Port Status On

Bandwidth Auto

10 Mbps 100 Mbps

Duplex Auto

Full Duplex Half Duplex

Trunk VLAN 2-1001

Tx Ring Limit

<input checked="" type="checkbox"/> 10:AULAS
<input checked="" type="checkbox"/> 20:DPTOS
<input checked="" type="checkbox"/> 30:MANTENIMIENTO

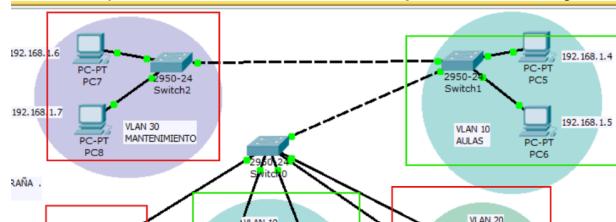
Equivalent IOS Commands

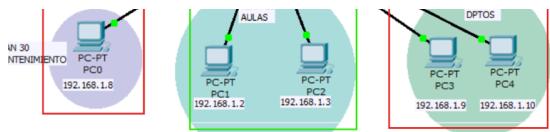
```
Switch(config-if)#
Switch(config-if)#
Switch(config-if)#switchport trunk allowed vlan remove 1005
Switch(config-if)#

```

- e. Verifica que la red funcione y haz las pruebas pertinentes para que los equipos solo puedan enviarse datos si pertenecen a la misma VLAN (haz pruebas con cada una de las 3 VLAN)

VLAN 10 (Solo los verdes se deben de poder conectar y mandar mensajes)





PC1 – PC2 – PC5 – PC6 SE DEBEN DE PODER CONECTAR ENTRE SI:

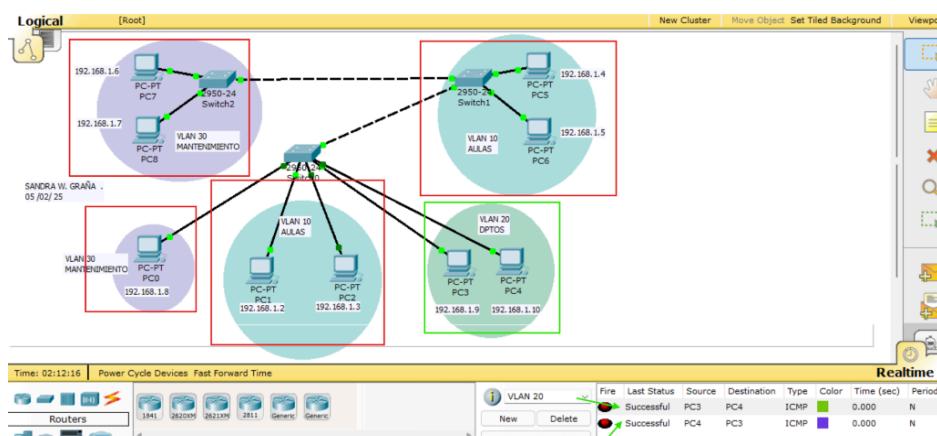
Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
Successful		PC5	PC6	ICMP	Red	0.000	N	0	(edit) (delete)	
Successful		PC6	PC5	ICMP	Green	0.000	N	1	(edit) (delete)	
Successful		PC2	PC1	ICMP	Blue	0.000	N	2	(edit) (delete)	
Successful		PC1	PC2	ICMP	Dark Blue	0.000	N	3	(edit) (delete)	
Successful		PC1	PC5	ICMP	Cyan	0.000	N	4	(edit) (delete)	
Successful		PC2	PC5	ICMP	Purple	0.000	N	5	(edit) (delete)	
Successful!		PC6	PC2	ICMP	Dark Green	0.000	N	6	(edit) (delete)	
Successful		PC6	PC1	ICMP	Dark Blue	0.000	N	7	(edit) (delete)	

PERO NO SE PUEDEN CONECTAR A LOS DEMAS (AUNQUE TENGAN EL MISMO RANGO DE IPs):

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
Failed		PC1	PC7	ICMP	Blue	0.000	N	0	(edit) (delete)	
Failed		PC1	PC8	ICMP	Dark Blue	0.000	N	1	(edit) (delete)	
Failed		PC5	PC4	ICMP	Cyan	0.000	N	10	(edit) (delete)	
Failed		PC5	PC3	ICMP	Green	0.000	N	11	(edit) (delete)	
Failed		PC5	PC7	ICMP	Red	0.000	N	12	(edit) (delete)	
Failed		PC5	PC8	ICMP	Light Blue	0.000	N	13	(edit) (delete)	
Failed		PC5	PC0	ICMP	Purple	0.000	N	14	(edit) (delete)	
Failed		PC6	PC4	ICMP	Dark Green	0.000	N	15	(edit) (delete)	
Failed		PC6	PC3	ICMP	Dark Blue	0.000	N	16	(edit) (delete)	
Failed		PC5	PC7	ICMP	Red	0.000	N	17	(edit) (delete)	
Failed		PC6	PC8	ICMP	Blue	0.000	N	18	(edit) (delete)	
Failed		PC6	PC0	ICMP	Magenta	0.000	N	19	(edit) (delete)	
Failed		PC1	PC0	ICMP	Purple	0.000	N	2	(edit) (delete)	
Failed		PC1	PC3	ICMP	Dark Blue	0.000	N	3	(edit) (delete)	
Failed		PC1	PC4	ICMP	Cyan	0.000	N	4	(edit) (delete)	
Failed		PC2	PC7	ICMP	Dark Blue	0.000	N	5	(edit) (delete)	

VLAN 20 (Solo los verdes se deben de poder conectar y mandar mensajes)

Successful:

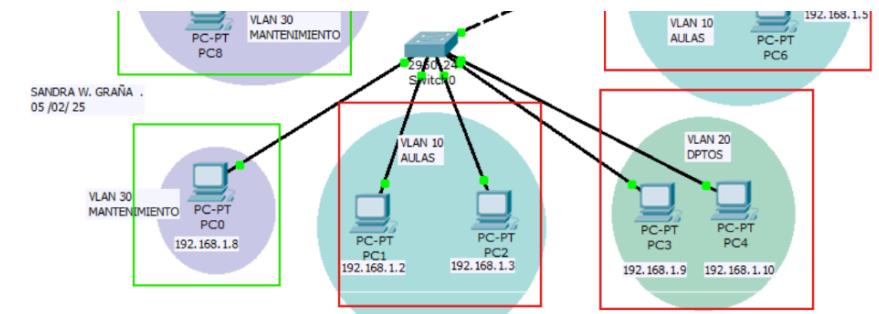


Failed:

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
Failed		PC4	PC6	ICMP	Dark Green	0.000	N	0	(edit) (delete)	
Failed		PC3	PC5	ICMP	Brown	0.000	N	1	(edit) (delete)	
Failed		PC4	PC2	ICMP	Green	0.000	N	2	(edit) (delete)	
Failed		PC3	PC1	ICMP	Brown	0.000	N	3	(edit) (delete)	
Failed		PC4	PC0	ICMP	Brown	0.000	N	4	(edit) (delete)	
Failed		PC3	PC0	ICMP	Purple	0.000	N	5	(edit) (delete)	
Failed		PC3	PC7	ICMP	Dark Brown	0.000	N	6	(edit) (delete)	
Failed		PC3	PC8	ICMP	Green	0.000	N	7	(edit) (delete)	
Failed		PC4	PC8	ICMP	Magenta	0.000	N	8	(edit) (delete)	
Failed		PC4	PC7	ICMP	Green	0.000	N	9	(edit) (delete)	

VLAN 30 (Solo los verdes se deben de poder conectar y mandar mensajes)





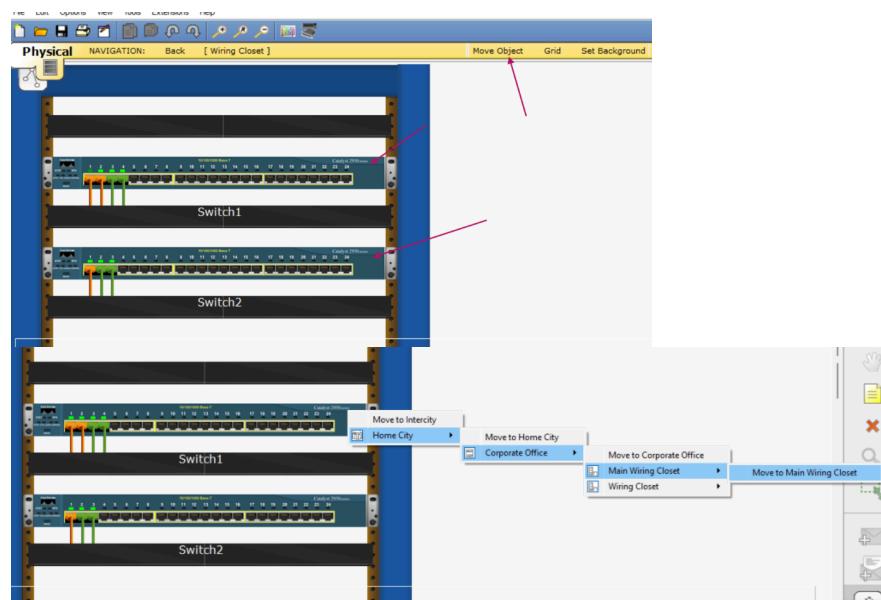
Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
●	Successful	PC7	PC8	ICMP	green	0.000	N	0	(edit) (delete)	
●	Successful	PC8	PC7	ICMP	yellow	0.000	N	1	(edit) (delete)	
●	Successful	PC8	PC0	ICMP	purple	0.000	N	2	(edit) (delete)	
●	Successful	PC0	PC8	ICMP	red	0.000	N	3	(edit) (delete)	
●	Successful	PC7	PC0	ICMP	light blue	0.000	N	4	(edit) (delete)	
●	Successful	PC0	PC7	ICMP	dark green	0.000	N	5	(edit) (delete)	

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num	Edit	Delete
●	Failed	PC0	PC1	ICMP	red	0.000	N	0	(edit) (delete)	
●	Failed	PC0	PC4	ICMP	light cyan	0.000	N	1	(edit) (delete)	
●	Failed	PC7	PC5	ICMP	cyan	0.000	N	10	(edit) (delete)	
●	Failed	PC7	PC6	ICMP	light green	0.000	N	11	(edit) (delete)	
●	Failed	PC0	PC5	ICMP	olive	0.000	N	2	(edit) (delete)	
●	Failed	PC8	PC2	ICMP	dark blue	0.000	N	3	(edit) (delete)	
●	Failed	PC8	PC3	ICMP	purple	0.000	N	4	(edit) (delete)	
●	Failed	PC8	PC6	ICMP	green	0.000	N	5	(edit) (delete)	
●	Failed	PC7	PC1	ICMP	dark purple	0.000	N	6	(edit) (delete)	
●	Failed	PC7	PC2	ICMP	yellow	0.000	N	7	(edit) (delete)	
●	Failed	PC7	PC3	ICMP	dark green	0.000	N	8	(edit) (delete)	
●	Failed	PC7	PC4	ICMP	red	0.000	N	9	(edit) (delete)	

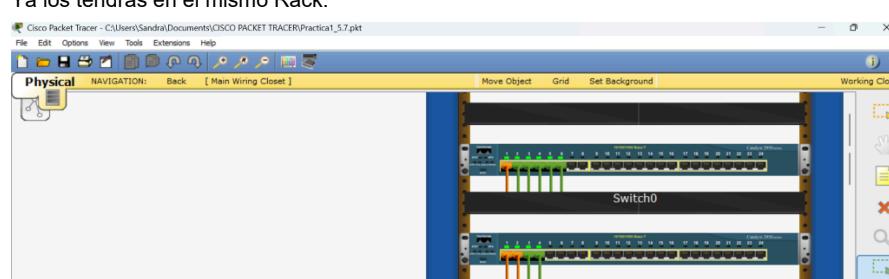
- f. Haz una captura del modo físico en el que se vea el rack con los 3 switches apilados. En caso de que no sea así, agrúpalos en un mismo rack.

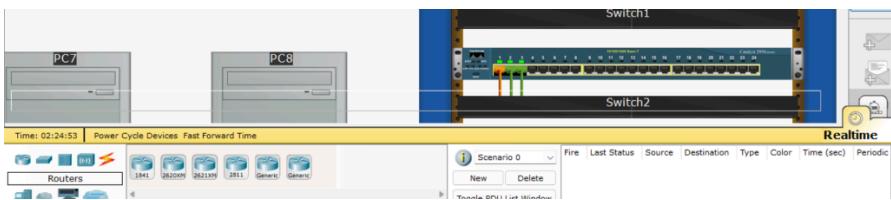
Si tienes que moverlos:

Elije Move Object > Selcciona el Switch > Selecciona el Main Wiring...



Ya los tendras en el mismo Rack:





Mas de cerca:



- g. Dado el esquema del rack anterior completa la siguiente tabla con los puertos de los switches y las **VLANs** que hayas asignado:

Si pasas el ratón por encima de cada Puerto puedes ver los detalles. Y si haces clic al Switch puedes ver su config.

Switch0

1	2	3	4	5	6	7	8	9	..	22	23	24
Trunk 10,20,30	30	10	10	20	20							

Switch1

1	2	3	4	5	6	7	8	9	..	22	23	24
Trunk 10,20,30	Trunk 10,20,30	10	10									

Switch2

1	2	3	4	5	6	7	8	9	..	22	23	24
---	---	---	---	---	---	---	---	---	----	----	----	----

